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# A Survey of Physics Textbooks Used in Iowa Secondary Schools (Preliminary Report)

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On December 5, 1969, 475 questionnaires were mailed to the public high school physics teachers of Iowa concerning the basic physics textbook(s) used in the classes they teach and the extent to which students are encouraged to answer the questions contained in the textbook(s). The questionnaire was a preliminary step of a doctoral dissertation which the author is presently working on at the University of Arkansas.

An analysis of the data from an 88.8 per cent useful return of questionnaires resulted in the following information. If one classifies PSSC (Physical Science Study Committee) and HPP (Harvard Project Physics) as "modern" physics and all other physics textbooks as "traditional," 37.1 per cent of the students taking physics during the 1969-70 school year are using a "modern" textbook while 52.9 per cent are using some type of "traditional" textbook as the basic text. Seventy-seven schools in the study are offering PSSC physics and nine HPP physics.

It was also found that 5.4 per cent of the students enrolled in grades 10 through 12 of the responding population are enrolled in physics during the 1969-70 school year. An extrapolation of this percentage would indicate that approximately 16.2 per cent of the seniors graduating from the public high schools of Iowa will have completed high school physics. An insignificant difference was found between the percentages of students enrolled in courses using "modern" physics textbooks and those using a "traditional" textbook.

A summary of the data collected concerning the specific physics textbooks used is contained in the following table.

Percentage of Public High School Students Enrolled in Physics in Iowa During the 1969-70 School Year According to the Basic Physics Textbook Used	
<i>Name and Publisher of Textbook</i>	<i>Percentage of Students Using the Textbook</i>
<i>Modern Physics</i> by Holt	38.5
<i>Physics</i> (PSSC) by Heath	30.9
<i>Project Physics</i> (HPP) by Holt	6.2
<i>Physics: Fundamentals and Frontiers</i> by Houghton-Mifflin	4.5
<i>Physics for High Schools</i> by Ginn	3.2
All others combined (Each textbook used by less than 3 per cent of the students)	16.7

The data contained in the section of the questionnaire concerning the extent to which the students are encouraged to answer textbook questions showed a significant difference between "modern" textbooks and "traditional" textbooks. On a seven point rating scale in which "1" indicated the greatest usage, the means for the "modern" and "traditional" texts were 2.4 and 3.6 respectively.

The major part of the author's study concerns the classification of questions contained in four physics textbooks according to the *Taxonomy of Educational Objectives: Cognitive Domain* by Benjamin Bloom, *et al.* The textbooks being used in the study are the first four listed in the preceding table. Although completed results of this part of the study are not available at the present time, a preliminary analysis of the data indicates that the questions contained in "modern" physics textbooks require students to use the higher levels of thinking far more frequently than do the questions contained in "traditional" physics textbooks.

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## NSTA, NASA Announce 1971 Youth Congresses

The National Science Teachers Association and the National Aeronautics and Space Administration announce twelve regional Youth Science Congresses to be held throughout the United States during the spring of 1971. This is the seventh year the NSTA-NASA sponsored congresses have been held.

All students in grades 10 to 12 in any U.S. high school are eligible to apply for participation.

Up to 20 participants chosen in each region will receive a two-day, all-expenses paid trip to a NASA center or a city having aerospace research facilities available and a handsome bronze medallion commemorating their participation in the congress.

At the congress, the participants will present orally the results of their project or investigation; they will take part in question-and-answer periods and informal sessions with fellow students, participating scientists, and sci-

ence teacher guests; and they will visit NASA laboratories or related research installations and hear distinguished speakers.

The 1971 congresses will be held at the NASA Lewis Research Center, Cleveland, Ohio; the NASA Goddard Space Flight Center, Greenbelt, Maryland (2 congresses); the NASA Langley Research Center, Langley, Virginia; the NASA Marshall Space Flight Center, Huntsville, Alabama; the NASA John F. Kennedy Space Center, Cape Kennedy, Florida; the NASA Manned Spacecraft Center, Houston, Texas; the NASA Pasadena Office (Jet Propulsion Laboratory), Pasadena, California; and the NASA Ames Research Center, Moffett Field, California. Three congresses will be held in St. Louis, Colorado Springs, and Minneapolis.

Entry materials may be obtained from NSTA. The deadline for application is February 10, 1971.

Students selected to participate in a congress will be notified by March 1, 1971.